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Cecília Szigeti – Péter Csiba – András Szeberényi – Balázs Sárvári – Tamás Gergely Kucsera – Norbert Holczinger

Hungarian Universities in Sustainability Rankings: The Case of Budapest Metropolitan University

Summary

This study provides a comprehensive review of three major international university sustainability rankings—UI GreenMetric, THE Impact Ranking, and QS Sustainability Ranking—with a particular focus on the performance and participation of Hungarian higher education institutions. Among these, UI GreenMetric stands out for its historical continuity and impact, having consistently included two Hungarian universities, the University of Pécs and the University of Szeged, within its global top 100. The analysis reveals that participation in these rankings does not primarily reflect competitive dynamics among institutions; rather, it fosters the dissemination of sustainability best practices through collaborative efforts. One prominent example of such cooperation is the Hungarian Universities Sustainability Platform (MEFP), initiated in 2022. This platform exemplifies a strategic shift towards collective sustainability governance in Hungarian higher education, encouraging institutional partnerships and coordinated progress toward the Sustainable Development Goals (SDGs).

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Dr. Habil. Cecília Szigeti, Habilitated Associate Professor, Budapest Metropolitan University (BMU) (cszigeti@metropolitan.hu); Péter Csiba, PhD Student, BMU (peter.csiba55@gmail.com); Dr. András Szeberényi, Associate Professor, BMU (aszeberenyi@metropolitan.hu); Dr. Balázs Sárvári, Research Fellow, BMU; Senior Lecturer, Corvinus University of Budapest (balazs.sarvari@uni-corvinus.hu) ; Prof. Dr. Tamás Gergely Kucsera, Professor, BMU (tkucsera@metropolitan.hu); Norbert Holczinger, PhD Student, Budapest University of Technology and Economics

Introduction

The academic discourse on sustainability has evolved significantly over the past several decades, with universities playing a foundational role as epicentres of research and knowledge dissemination in this field. While the scientific exploration of sustainability emerged relatively early, the conceptualization of universities themselves as sustainable institutions – as both workplaces and community actors – gained prominence at a much later stage (Figure 1).

Figure 1. Sustainable Universities

Source: Own edited figure, 2025

Besenyei (2013) highlighted 12 years ago in volume 9, issue 3-6 of this journal that higher education institutions must assess their sustainability performance, noting that internal and external pressures increasingly compel universities to engage with environmental and social challenges. Her analysis also underscored the relatively slow responsiveness of universities compared to the corporate sector in adapting to sustainability expectations. Since then, notable progress has been made in both conceptual understanding and practical implementation, particularly through structured assessments, institutional strategies, and collaborative initiatives.

It is critical to distinguish between two primary dimensions when considering the intersection of universities and sustainability. The first pertains to the intellectual and scholarly contributions of universities, focusing on the identification of pioneering researchers and the establishment of leading academic workshops in the field (Málovics, 2020). The second dimension evaluates universities as operational entities and examines their tangible contributions to sustainable development, such as the environmental performance of campus infrastructure, transportation modes used by faculty and students, and alignment with the United Nations Sustainable Development Goals (SDGs) (Atici et al., 2021). Within this latter perspective, two complementary pathways are commonly pursued. One emphasizes the direct enhancement of sustainability performance through technological advancements—such as the deployment of renewable energy systems, campus modernization initiatives, selective waste collection programs, and ecological footprint assessments (Klein-Banai & Theis, 2011).

The other pathway addresses behavioural and attitudinal factors, including consumption patterns related to travel and food, and broader sustainability awareness (Roy, 2021; Schaubroeck et al., 2018). Although these approaches are not mutually exclusive, it is essential to specify the evaluative framework when assessing university sustainability. Whether the focus is on academic output in the sustainability sciences, infrastructural investments that yield environmental benefits, or initiatives that cultivate ecological consciousness, the scope and methodology must be clearly articulated. Importantly, fostering a culture of sustainability within universities necessitates a profound shift in mindset among both students and academic staff—a transition that varies significantly across generational lines (Varga & Csiszárik-Kocsir, 2024). Furthermore, achieving inclusive and equitable quality education (SDG 4) constitutes a sustainability objective in its own right. Hungary, like many European nations, continues to face systemic challenges in this domain (Harangozó & Fakó, 2024; Delova-Jolevska et al., 2024). Accordingly, enhancing the sustainability performance of Hungarian universities also contributes indirectly to the realization of broader global development targets.

Our review study focuses on the landscape of university sustainability rankings, with a particular focus on those that assess institutional-level sustainability practices. Through an analysis of Hungarian universities featured in these rankings, the study aims to identify and disseminate best practices that may serve as models for further advancement.

Rankings

In recent years, the academic literature has witnessed a notable increase in studies addressing the methodologies and implications of university sustainability rankings (Acici et al., 2021; Perchinunno & Cazzolle, 2020). While these rankings are generally regarded as valuable instruments for promoting transparency and institutional benchmarking in sustainability performance, critiques have been raised regarding the heterogeneity of criteria and the conceptual stability of their indicators (Lo-Iacono-Ferreira et al., 2016; Ragazzi & Ghidini, 2017).

The first global ranking system dedicated exclusively to sustainability in higher education was the UI GreenMetric World University Ranking, launched in 2010 by Universitas Indonesia. This system evaluates institutions across six core dimensions: setting and infrastructure, energy and climate change, waste management, water management, transportation, and education and research. These categories are assessed through a detailed questionnaire comprising 39 items (Suwartha & Sari, 2013). According to GreenMetric data, the highest-ranking institutions are predominantly located in countries such as the United Kingdom, Germany, and Canada, and typically operate in suburban settings (Perchinunno & Cazzolle, 2020). Initially, Hungary was represented by only one institution – the University of Szeged. However, by 2024, a total of 13 Hungarian universities had been included in the ranking (Table 1). While the University of Szeged held the top position until 2019, since 2020 the University of Pécs has held the lead position.

Table 1. UI Green metrics

	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total number of participants/ Placements	1477	1182	1050	965	911	780	718	619	515	407	351	301	215	178	95
University of Pécs	25	23	21	42	59	100	140	179	355						
University of Szeged	75	77	73	85	86	74	77	88	107	29	19	35	52	67	54
University of Sopron	110	130	206	282	590										
Semmelweis University	357	348	398	476											
University of Debrecen	394	340	266	238	236	202	354	501	311	182	188	140	92	114	
Eötvös Loránd University	425	368	229	238	162	244	264	322	244	281	348	286	206	173	
University of Pannonia	451	583	519	610											
Corvinus University of Budapest	475	750	577	869			525	502	399	349	326	285			
Eszterházy Károly Catholic College	805	870													
Budapest Business University	929	785	541	548	505	491	459								
Budapest Metropolitan University	1278		863	811	804	755									
University of Miskolc	1366	1099	761	755	608	605		440	414	288					
University of Nyíregyhaza	1805	1161													
Szent István University							532		371	326	270				
Óbuda University							595	592	472	363	325	267	194	157	
Budapest University of Technology and Economics								494							

Source: Own edited table based on https://greenmetric.ui.ac.id/about/methodology, 2025

Another influential benchmarking system is the Times Higher Education (THE) Impact Rankings, which assesses universities based on their contributions to the United Nations' 17 Sustainable Development Goals (SDGs). Each university may choose to submit data for any number of SDGs, though inclusion in the general ranking requires reporting on SDG 17 (Partnerships for the Goals) and at least three additional goals. These rankings offer a nuanced

assessment by incorporating performance indicators aligned with specific SDG targets and sub-goals. First published in 2019, the ranking featured two Hungarian institutions in its inaugural edition – the University of Szeged and Semmelweis University. By 2024, this number had increased to 11, with the University of Debrecen and the University of Szeged attaining the highest rankings among Hungarian participants, both placed in the 301–400 range out of 1,963 institutions (Table 2). Notably, no universities from Central or Eastern Europe were included in the top 100 in 2024, a position held by Western Sydney University in Australia.

Table 2. THE Impact Ranking

	2024	**2023**	**2022**	**2021**	**2020**	**2019**
Total number of participants/ Placements	*1963*	*1591*	*1410*	*1117*	*768*	*467*
University of Debrecen	301-400	301-400	401-600	301-400	201-300	
University of Szeged	301-400	401-600	401-600	301-400	101-200	101-200
Eötvös Loránd University	401-600	401-600	401-600	601-800	401-600	
Hungarian University of Agriculture and Life Sciences	601-800	401-600				
University of Győr (Széchenyi István University)	601-800	801-1000	801-1000	601-800	601+	
Semmelweis University	801-1000	601-800	601-800	401-600	401-600	101-200
Budapest Business University	1001-1500	1001+				
Eszterházy Károly Catholic University	1001-1500	1001+	1001+			
John van Neumann University	1001-1500	1001+	1001+			
University of Sopron	801-1000	1001+	1001+			
University of Pannonia	1001-1500					
University of Pécs		601-800	601-800	201-300	301-400	

Source: Own edited table based on https://www.timeshighereducation.com/impactrankings, 2025

The QS Sustainability Rankings, introduced in 2023 by Quacquarelli Symonds, represent a relatively new approach to evaluating sustainability in higher education. This system is structured around three core dimensions: environmental impact (45%), social impact (45%), and governance (10%). In 2025, the ranking assessed 1,743 institutions globally, using a framework that addresses pressing global sustainability challenges. That year, 10 Hungarian universities were evaluated. (Table 3). The ranking was led by the University of Toronto (Canada), and similarly to the THE Impact Rankings, no Central or Eastern European institutions were represented among the top 100.

Table 3. QS Sustainability Ranking

Higher Education Institutions	2025	2024	2023
Ranked Institutions	*1743*	*1400*	700
University of Debrecen	313	372	
University of Szeged	325	259	381-400
Eötvös Loránd University	351	259	601+
Budapest University of Technology and Economics	556	485	341-360
University of Győr (Széchenyi István University)	889	901-920	
Hungarian University of Agriculture and Life Sciences	605	1201+	
University of Pécs	643	651	
Óbuda University	981-990		
Corvinus University of Budapest	1501+		
Eszterházy Károly Catholic University	1501+		

Source: Own edited table based on https://www.topuniversities.com/sustainability-rankings, 2025

In parallel, the Sustainability Tracking, Assessment & Rating System (STARS) provides another alternative model, focusing on self-reported performance across a comprehensive set of sustainability indicators. As of the most recent data, 1,236 institutions are enrolled in the STARS program, including two from Hungary: the National University of Public Service and Budapest Business School. Of these, 370 universities have been formally rated based on their submissions, with Budapest Business School among the ranked institutions. The STARS framework provides a structured certification process and supports continuous improvement through iterative reporting.

Sustainability initiatives among universities

for over two decades, the European University Association (EUA) has played a key role in fostering a cohesive and collaborative landscape for higher education and research across Europe. As a network comprising over 900 members – including universities, national rectors' conferences, and affiliated organizations across 49 countries – the EUA facilitates have shared learning and strategic alignment among institutions within and beyond the European continent.

Table 4. EUA members

Budapest University of Economics and Business	Individual Associate Member
Budapest University of Technology and Economics	Individual Full Member
Corvinus University of Budapest	Individual Full Member
Eszterházy Károly Catholic University	Individual Full Member
Eötvös Loránd University	Individual Full Member
Ludovika University of Public Service	Individual Full Member
Óbuda University	Individual Full Member
Semmelweis University	Individual Full Member
University of Győr (Széchenyi István University)	Individual Full Member
University of Debrecen	Individual Full Member
University of Miskolc	Individual Full Member
University of Pannonia	Individual Full Member
University of Pécs	Individual Full Member
University of Szeged	Individual Full Member

Source: Own edited table based on https://www.eua.eu/our-membership/member-directory.html, 2025

Central to the EUA's mission is the advancement of sustainability in higher education. The association actively promotes initiatives aimed at achieving carbon neutrality and advancing sustainable societal and economic development in Europe. By encouraging collaboration and peer learning among its members, the EUA supports the institutionalization of sustainability-oriented practices and enhances the impact of higher education on both local and global communities.

In this spirit of cooperation, the Higher Education Sustainability Initiative (HESI) was launched in 2022 as a global partnership framework. HESI seeks to connect universities, academic networks, and student organizations with the shared objective of contributing to the United Nations Sustainable Development Goals (SDGs). This initiative underscores a shift in emphasis from competition to collaboration, whereby universities not only strive for excellence in sustainability rankings but also engage in collective efforts to disseminate best practices.

Table 5. HESI Partnership (as of January 2025)

Higher Education Institution	Year of Joining
Bhaktivedanta College	2024
University of Pécs	2024
University of Sopron	2024
University of Szeged	2023
University of Public Administration	2022

Source: Own edited table based on https://partnershipaccelerator.org/hesi/, 2025

Concurrent with the creation of HESI, a sustainability initiative among universities in Hungary, the Hungarian Universities Sustainability Platform (MEFP), was established on 22 September 2022 by the University of Pécs. The platform, which includes participation from fourteen domestic universities, aims to share best practices, organize regular joint actions, and develop closer cooperation for sustainability-oriented developments. Members of the MEFP include: Corvinus University of Budapest, Budapest Business School, Budapest Metropolitan University, Budapest University of Technology and Economics, Eszterházy Károly Catholic University, the Hungarian University of Agriculture and Life Sciences, the University of Miskolc, the University of Nyíregyháza, Óbuda University, the University of Pannonia, the University of Pécs, Semmelweis University, the University of Sopron and the University of Szeged. Later, John van Neumann University and Széchenyi István University also joined the initiative.

This national platform represents a coordinated effort to advance sustainability within the higher education sector in Hungary. It aligns with similar international movements, such as the People & Planet University League in the United Kingdom, which has been evaluating the environmental and ethical performance of universities for over a decade. The People & Planet University League, the UK's largest student network, ranks more than 150 universities based on 13 core criteria: environmental policy and strategy, environmental management systems and audits, dedicated sustainability staff, ethical investment policies, carbon reduction strategy, labour rights, sustainable food, student and staff engagement, education for sustainable development, use of sustainable energy sources, waste management and recycling, carbon emissions reduction, and water use reduction (People and Planet, 2025). All participants are featured in various sustainability rankings, with the initiating University of Pécs being one of the most successful Hungarian participants in these rankings. One outcome of the Platform is the development of an online course and associated materials facilitated by the faculty members of the participating universities.

A key outcome of the MEFP has been the co-development of a standardized online course titled "Introduction to the Sustainable Development Goals (SDGs)". This course is designed to be adaptable, allowing member institutions to tailor the content and title to fit their local educational needs. For instance, METU offers the course under the name *The Age*

of Sustainability – Questions and Answers, while retaining the core curriculum collaboratively developed by MEFP partners. The course has been integrated into undergraduate programs at several institutions, including METU, where it became available to all bachelor's students in the Spring semester of the 2023/2024 academic year, irrespective of their discipline. A total of 1,340 students from MEFP member institutions enrolled, including 123 students from METU, encompassing both full-time and part-time participants. Plans are currently underway to extend access to master's level students, potentially in an expanded or enhanced format.

The course curriculum includes a broad spectrum of challenging topics. These include vital issues such as the dilemmas of sustainable development, environmental policy, gender equality, decent job creation, and the role of sustainability competencies in modern higher education. It also addresses the impact of social, cultural, and environmental factors on health. Furthermore, the course explores forward-looking topics such as the implementation of a circular economy in urban environments and the potential role of forest-based economies in mitigating climate change. These themes not only seek answers to current global and local challenges but also aim to prepare students for the complex problems they will face in the future as decision-makers and responsible members of society.

Metu's Green Campus Initiative

A Bottom-Up Approach to University Sustainability

The Green Transition Institute at Budapest Metropolitan University (METU), in collaboration with the Hungarian National Bank (MNB), launched the Green Campus Initiative in 2024, an idea competition designed to enhance METU's sustainability performance. This initiative represents a bottom-up approach, emphasizing the active involvement of students in shaping the university's sustainability strategy. By leveraging student-driven innovations, the initiative aligns with the United Nations' Sustainable Development Goals (SDGs) and integrates environmental, social, and economic sustainability considerations.

The initial incentive beyond the Green Campus Initiative was the recognition that achieving sustainability in higher education institutions requires not only top-down policy frameworks but also grassroots-level engagement. The competition called for student-led proposals that contribute to METU's sustainability development across multiple dimensions. Participants were encouraged to submit ideas that integrate at least two of the following five thematic areas:

1. Social Responsibility – Addressing social equity, well-being, and inclusive development.
2. Educational and Research Contributions – Expanding sustainability education and integrating sustainability into academic curricula.
3. Environmental Improvements – Enhancing campus sustainability through initiatives such as climate action and biodiversity conservation.
4. Operational and Infrastructure Innovations – Proposing solutions to improve energy efficiency, waste management, and sustainable urban planning within the university.

5. Collaborative and Institutional Engagement – Strengthening partnerships, governance, and institutional resilience for long-term sustainability.

Unlike traditional top-down sustainability programs, this initiative is structured around a participatory model, relying on students' creativity, knowledge, and direct experience of university life. The program acknowledges that students, as key stakeholders, offer unique perspectives on how sustainability can be integrated into the university's daily operations, curriculum, and broader institutional framework. The competition provides an opportunity for students to not only contribute to tangible sustainability solutions but also to actively shape METU's long-term sustainability vision.

Lessons from the Green Campus Initiative

The Green Campus Initiative at Budapest Metropolitan University (METU) generated a broad array of proposals that offer both practical solutions and strategic long-term visions aimed at enhancing environmental responsibility and social inclusivity within the academic context.

Educational Innovation and Curricular Integration

Among the most impactful recommendations were those directed at strengthening the academic integration of sustainability. Notably, the expansion of the existing *MySkills* training program to include sustainability-oriented modules was proposed. These modules would address topics such as eco-conscious behaviour, sustainable procurement practices, and strategies for minimizing environmental impacts. The establishment of a specialized *Master's Program in Sustainability Management* was suggested, aiming to equip students with the theoretical and practical tools necessary for implementing sustainable economic practices, fostering climate-conscious leadership, and promoting green business models.

A further academic enhancement involved the proposed introduction of a mandatory course in sustainability economics, to be embedded across all undergraduate programs. This would ensure that all students, regardless of their discipline, acquire foundational knowledge in sustainable economic systems. Complementing this, outdoor classes were recommended as a pedagogical innovation to harness the psychological and educational benefits of natural environments, thereby reinforcing students' environmental awareness and mental well-being.

Operational Sustainability and Resource Efficiency

Significant emphasis was also placed on improving campus operations to align with sustainability goals. Short-term recommendations included transitioning from paper-based queuing systems to digital appointment scheduling platforms, thereby reducing paper usage and associated energy consumption. Water-saving measures, such as installing timed faucets and waterless urinals, were proposed to address resource efficiency. Furthermore, energy-efficient lighting upgrades – including the deployment of LED fixtures and motion-sensor systems in restrooms – were prioritized.

To promote circular economy practices, the introduction of reverse vending machines (REpont) for plastic bottle collection and recycling was suggested. Long-term infrastructural proposals focused on upgrading the university's HVAC systems and installing advanced water purification units, thereby enhancing energy efficiency, indoor air quality, and drinking water safety.

Social Responsibility and Equity

The initiative also emphasized social inclusion and student well-being. A series of cafeteria reforms were proposed, including the removal of energy drinks and the introduction of healthier alternatives such as smoothies and sugar-free beverages, along with increased availability of locally sourced, seasonal produce. Menu diversification to include vegan, gluten-free, and low-fat options was also recommended.

To address socio-economic barriers, proposals included the launch of state-funded scholarship programs for selected undergraduate tracks and the development of on-campus housing solutions for financially disadvantaged students. Additional measures included organizing charitable events, streamlining access to mandatory health checks for student employment, and implementing a laptop distribution program to support digitally under-resourced students.

Implementation Timeline and Stakeholder Impact

The proposals were categorized according to implementation timelines and financial requirements. Short-term, low-cost interventions include digital systems, outdoor classes, and dietary changes. Medium-term strategies involve water-saving and energy-efficiency technologies and social health measures. High-investment, long-term projects include HVAC modernization, campus housing development, and new academic program creation.

In terms of novelty, the initiative introduced several first-of-their-kind elements within the Hungarian university context, such as sustainability-oriented digital training, in-house reverse vending infrastructure, specialized sustainability certification, and enhanced student health support mechanisms.

The benefits of the proposed measures extend across various university stakeholders. Students would benefit not only in terms of practical sustainability knowledge and healthier campus environments, but also through improved financial and academic support. Faculty members would benefit from enhanced teaching infrastructure and professional development opportunities, while the institution would gain reputationally and operationally through cost savings and increased alignment with sustainability benchmarks. Moreover, surrounding communities would benefit from outreach efforts, including skills training and environmental engagement.

Ultimately, the Green Campus Initiative demonstrates a scalable and replicable model of sustainability transformation in higher education. Its multidimensional approach integrates environmental, social, and operational innovations, contributing to reduced ecological footprints, enhanced sustainability literacy, and institutional resilience. These efforts not only reflect an internal shift within METU but also exemplify how academic institutions can act as catalysts for broader societal change.

Discussion

The findings of this study highlight a growing imperative for higher education institutions to expand their understanding and measurement of sustainability performance, both at the academic and operational levels. Universities are increasingly recognized not merely as centres of knowledge production but as important societal actors in achieving environmental and social goals. Their inclusion in international sustainability rankings reflects this shift, signalling a broader commitment to transparency, accountability, and leadership in sustainable development (Harangozó, 2015). Despite these advancements, methodological inconsistencies among ranking systems pose substantial challenges. The diverse metrics and weightings used hinder comparability and complicate the strategic alignment of sustainability efforts across institutions. Consequently, a more unified, yet flexible evaluative framework is needed – one that acknowledges institutional diversity while fostering global best practices. National platforms such as the Hungarian Universities Sustainability Platform (MEFP) exemplify the potential of coordinated, collective action. By facilitating peer learning, joint action, and resource sharing, the MEFP strengthens institutional capabilities and encourages a culture of collaboration over competition. Notably, the METU Green Campus Initiative stands out as an example of how student-led, bottom-up initiatives can effectively complement top-down institutional strategies. This dual-level governance model enhances not only sustainability performance but also student engagement and institutional innovation. The transformative potential of higher education in promoting sustainability is increasingly mirrored in national-level financial and policy frameworks. As discussed by Harangozó (2015), sustainability efforts must be embedded in the economic and decision-making structures to be truly effective. In line with this, Lentner and Zsarnóczai (2022) emphasize that monetary and fiscal instruments – such as those employed by the Hungarian National Bank (MNB) – can significantly advance environmental objectives. The MNB's green mandate, including its Green Home Program and issuance of green bonds, exemplifies how macroeconomic policy can serve as a strategic enabler of sustainability, providing financial incentives for carbon-neutral investments and green innovation. Taken together, these developments underscore a multidimensional approach to sustainability: one that bridges institutional practices with national policy and international benchmarks. The interplay between local initiatives and systemic frameworks offers a promising path forward, where universities do not act in isolation but as integrated agents of a larger, environmentally conscious transformation.

Conclusion

By blending innovative approaches with refined classic solutions, the sustainability strategies proposed across Hungarian universities present a holistic and adaptable model for institutional development. These models not only address the immediate operational and educational challenges but also lay the groundwork for sustainable transformation at a systemic level. The METU Green Campus Initiative stands out as a pilot model that effectively integrates student innovation into institutional planning. Its success lies in its inclusivity, responsiveness

to local needs, and capacity to mobilize diverse stakeholder groups. To further enhance its impact, future developments could focus on:

- Incorporating effective student-generated ideas into official university policies and operational frameworks.
- Developing new interdisciplinary courses or degree programs cantered on sustainability science and practice.
- Establishing mechanisms to track and evaluate the long-term outcomes of sustainability interventions.
- Sharing results and methodologies with other institutions to inspire broader adoption.

This initiative, along with others featured in this study, reflects a broader trend towards participatory governance in sustainability, where universities act not only as educators but as active agents of societal change. Such transformations are essential for aligning higher education with the global goals of sustainable development.

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